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Prospective randomized trial of 10% povidone-iodine

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## **Prospective Randomized Trial of 10% Povidone-Iodine (PVI) versus 5% Alcohol Plus 5% Povidone-Iodine (APVI) for Prevention of Central Venous Catheter (CVC) Colonization.**

PARIENTI JJ, DUCHEYRON D, RAMAKERS M, MALBRUNY B, LECLERCQ R, LECOUTOUR X, CHARBONNEAU P; Interscience Conference on Antimicrobial Agents and Chemotherapy (42nd : 2002 : San Diego, Calif.).

*Abstr Intersci Conf Antimicrob Agents Chemother Intersci Conf Antimicrob Agents Chemother.* 2002 Sep 27-30; 42: abstract no. K-664.

Caen University Hosp., Caen, France.

**BACKGROUND:** In intensive care unit (ICU), the optimal chemical antiseptic for disinfection of the CVC insertion site and hubline care is a matter of debate. Alcoholic chlorhexidine has been shown to be more effective than PVI in 2 randomized controlled trials (RCT) but both antiseptics were equivalent in the last published RCT (Humar, 2000). A RCT was performed to assess efficacy of a new solution containing APVI (Asta Medica) versus PVI alone (Asta Medica). **METHODS:** Two adult medical ICUs were randomly assigned to PVI or APVI for CVC antiseptics before insertion and hubline care. Every 3 months, the alternative protocol was switched in each ICU for a total of 12 months. All CVC during the study were quantitatively cultured according to the Brun-Buisson technique. CVC colonization was defined as  $\geq 1000$  CFU/mL for *Staphylococcus epidermidis* and  $\geq 100$  CFU/mL for other bacteria. Risk factors for CVC colonization were identified by using a logistic model including the use of APVI versus PVI and adjusting for other covariates. **RESULTS:** During the study period, 306 CVC were inserted in 125 patients. A total of 304 CVC were evaluated (146 in the APVI group). Rates of CVC colonization were 35.8/1000 days-catheter in the PVI group and 25.0/1000 days-catheter in the APVI group. Independent risk factors for CVC colonization (Odds ratio [95% confident interval]) were: use of PVI vs APVI (2.1 [1.1-3.9]), days of insertion (1.07; [1.01-1.14]), jugular site vs sub-clavian (2.3 [1.1-4.5]), use of CVC for administration of fluids other than antibiotics (2.0 [1.1-3.9]) and femoral site vs sub-clavian (1.2 [0.6-2.5]), adjusting for age and APACHE II. **CONCLUSIONS:** Adding alcohol to PVI reduced CVC colonization when compared to PVI alone. APVI instead of PVI should be used as a standard antiseptic for routine CVC care in ICU and for control group in future RCTs.

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### Other ID:

- GWAIDS0028756

UI: 102268388

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